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VAN WETENSCHAPPEN

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**Table of the cumulative symmetric binomial  
distribution**

BY

A. VAN WIJNGAARDEN

(REPORT R 70 OF THE COMPUTATION DEPARTMENT  
OF THE MATHEMATICAL CENTRE AT AMSTERDAM)

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TABLE OF THE CUMULATIVE SYMMETRIC BINOMIAL  
DISTRIBUTION

BY

A. VAN WIJNGAARDEN

(Report R 70 of the Computation Department of the Mathematical Centre at Amsterdam)

(Communicated by Prof. D. VAN DANTZIG at the meeting of April 29, 1950)

1. *Introduction.* In this paper a table is given of the cumulative symmetric binomial distribution-function

$$(1.1) \quad P(n, c) = 1 - 2^{1-n} \sum_{s=0}^c \binom{n}{s}.$$

This function is of some mathematical interest, and plays especially a role in statistics. The immediate reason for the construction of the table was a recent paper by H. THEIL<sup>1)</sup>, where  $P(n, c)$ , together with another distribution-function to be tabulated later on, occur.

By means of the incomplete Beta-function

$$(1.2) \quad I_x(p, q) = \frac{\int_0^x t^{p-1} (1-t)^{q-1} dt}{\int_0^1 t^{p-1} (1-t)^{q-1} dt}$$

the function  $P(n, c)$  can be written in the form

$$(1.3) \quad P(n, c) = 1 - 2 I_{\frac{1}{2}}(n - c, c + 1).$$

This relation permits to read  $P(n, c)$  from a table of  $I_x(p, q)$ . As these tables<sup>2)</sup>, however, are restricted to  $p \leq 50$ , the complete distribution can be found if  $n \leq 50$ , and part of it only if  $50 < n \leq 100$ . This range is not always sufficient for practical purposes. This difficulty may be overcome by approximation of  $P(n, c)$  by a normal distribution, if need be, with application of continuity-corrections, a procedure that may easily lead to computational errors, however. The present table gives  $P(n, c)$  directly for  $n \leq 200$ , a range large enough for most statistical applications.

2. *Preparation of the table.* By the use of suitable recurrence relations a table of  $P(n, c)$  multiplied by certain powers of 2 were produced on a National-accounting machine. The superfluous powers of 2 were eliminated

<sup>1)</sup> H. THEIL, A rank-invariant method of linear and polynomial regression analysis, I, These Proceedings, 53, 386-392 (1950).

<sup>2)</sup> K. PEARSON, Tables of the incomplete Beta-function, Cambridge, (1934).

by division and the printers copy and proofsheets checked by means of the recurrence relations that exist between the sums with respect to  $n$  for consecutive values of  $c$ . For  $n=100$  and  $200$  the binomial coefficients were computed separately to provide a last independent check.

The accuracy is well under one unit of the last (fifth) decimal place. This is, of course, much better than is needed for statistical purposes, but it provides the possibility to find also the binomial coefficients with some accuracy in the table by means of

$$(2.1) \quad 2^{1-n} \binom{n}{c} = P(n, c-1) - P(n, c).$$

Instead of  $n$  and  $c$  the arguments  $n-2c$  and  $c$  were chosen in the table. This will not cause much difficulty for the user but reduces the required space considerably.

The computations have been performed by Miss R. D. M. MULDER.

### 3. Table of $P(n, c)$ .

$n-2c$	$c=0$	$c=1$	$c=2$	$c=3$	$c=4$	$c=5$	$c=6$	$c=7$	$c=8$
1	0	0	0	0	0	0	0	0	0
2	0.50000	0.37500	0.31250	0.27344	0.24609	0.22559	0.20947	0.19638	0.18547
3	0.75000	0.62500	0.54688	0.49219	0.45117	0.41895	0.39276	0.37094	0.35239
4	0.87500	0.78125	0.71094	0.65625	0.61230	0.57605	0.54550	0.51932	0.49656
5	0.93750	0.87500	0.82031	0.77344	0.73315	0.69824	0.66769	0.64072	0.61669
6	0.96875	0.92969	0.89062	0.85400	0.82043	0.78989	0.76212	0.73682	0.71372
7	0.98438	0.96094	0.93457	0.90771	0.88153	0.85654	0.83293	0.81075	0.78996
8	0.99219	0.97852	0.96143	0.94263	0.92319	0.90375	0.88468	0.86620	0.84841
9	0.99609	0.98828	0.97754	0.96484	0.95096	0.93643	0.92165	0.90686	0.89225
10	0.99805	0.99365	0.98706	0.97873	0.96912	0.95861	0.94752	0.93609	0.92448
11	0.99902	0.99658	0.99261	0.98727	0.98079	0.97340	0.96531	0.95671	0.94776
12	0.99951	0.99817	0.99582	0.99246	0.98818	0.98310	0.97734	0.97104	0.96430
13	0.99976	0.99902	0.99765	0.99557	0.99280	0.98938	0.98537	0.98084	0.97588
14	0.99988	0.99948	0.99869	0.99742	0.99566	0.99339	0.99064	0.98746	0.98388
15	0.99994	0.99973	0.99927	0.99851	0.99740	0.99592	0.99408	0.99187	0.98933
16	0.99997	0.99986	0.99960	0.99914	0.99846	0.99751	0.99628	0.99478	0.99300
17	0.99998	0.99992	0.99978	0.99951	0.99909	0.99849	0.99768	0.99667	0.99545
18	0.99999	0.99996	0.99988	0.99972	0.99947	0.99909	0.99857	0.99790	0.99706
19	1.00000	0.99998	0.99993	0.99984	0.99969	0.99945	0.99912	0.99868	0.99812
20	1.00000	0.99999	0.99996	0.99991	0.99982	0.99968	0.99946	0.99918	0.99881
21	1.00000	0.99999	0.99998	0.99995	0.99990	0.99981	0.99968	0.99949	0.99925
22	1.00000	1.00000	0.99999	0.99997	0.99994	0.99989	0.99980	0.99969	0.99953
23	1.00000	1.00000	0.99999	0.99998	0.99997	0.99993	0.99988	0.99981	0.99971
24	1.00000	1.00000	1.00000	0.99999	0.99998	0.99996	0.99993	0.99988	0.99982
25	1.00000	1.00000	1.00000	1.00000	0.99999	0.99998	0.99996	0.99993	0.99989
26	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99996	0.99993
27	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99996
28	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998
29	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99998
30	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
31	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
32	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

$n-2c$	$c = 9$	$c = 10$	$c = 11$	$c = 12$	$c = 13$	$c = 14$	$c = 15$	$c = 16$	$c = 17$
1	0	0	0	0	0	0	0	0	0
2	0.17620	0.16819	0.16118	0.15498	0.14945	0.14446	0.13995	0.13583	0.13206
3	0.33638	0.32236	0.30996	0.29889	0.28893	0.27990	0.27167	0.26412	0.25717
4	0.47653	0.45874	0.44280	0.42841	0.41534	0.40339	0.39241	0.38228	0.37290
5	0.59513	0.57564	0.55793	0.54174	0.52687	0.51315	0.50044	0.48862	0.47760
6	0.69254	0.67306	0.65507	0.63841	0.62291	0.60847	0.59497	0.58231	0.57041
7	0.77048	0.75221	0.73507	0.71896	0.70379	0.68950	0.67599	0.66322	0.65111
8	0.83136	0.81507	0.79951	0.78467	0.77052	0.75702	0.74412	0.73181	0.72004
9	0.87792	0.86395	0.85039	0.83724	0.82453	0.81226	0.80041	0.78898	0.77795
10	0.91284	0.90126	0.88982	0.87855	0.86750	0.85669	0.84614	0.83585	0.82583
11	0.93857	0.92924	0.91986	0.91047	0.90113	0.89187	0.88273	0.87371	0.86484
12	0.95723	0.94990	0.94239	0.93475	0.92705	0.91931	0.91157	0.90386	0.89619
13	0.97055	0.96492	0.95904	0.95297	0.94675	0.94042	0.93400	0.92754	0.92106
14	0.97994	0.97569	0.97118	0.96645	0.96152	0.95644	0.95123	0.94592	0.94054
15	0.98647	0.98333	0.97993	0.97630	0.97246	0.96846	0.96430	0.96001	0.95561
16	0.99096	0.98867	0.98615	0.98341	0.98048	0.97737	0.97410	0.97069	0.96716
17	0.99401	0.99237	0.99052	0.98849	0.98628	0.98390	0.98137	0.97870	0.97591
18	0.99607	0.99490	0.99357	0.99208	0.99044	0.98865	0.98672	0.98465	0.98247
19	0.99744	0.99662	0.99568	0.99460	0.99339	0.99206	0.99060	0.98903	0.98734
20	0.99834	0.99778	0.99711	0.99634	0.99547	0.99448	0.99340	0.99221	0.99093
21	0.99893	0.99855	0.99809	0.99754	0.99691	0.99620	0.99540	0.99452	0.99355
22	0.99932	0.99906	0.99874	0.99836	0.99791	0.99740	0.99682	0.99616	0.99544
23	0.99957	0.99940	0.99918	0.99891	0.99860	0.99823	0.99781	0.99734	0.99680
24	0.99973	0.99961	0.99947	0.99928	0.99906	0.99881	0.99851	0.99816	0.99777
25	0.99983	0.99975	0.99966	0.99953	0.99938	0.99920	0.99899	0.99874	0.99845
26	0.99990	0.99984	0.99978	0.99969	0.99959	0.99947	0.99932	0.99914	0.99893
27	0.99994	0.99990	0.99986	0.99980	0.99973	0.99965	0.99954	0.99942	0.99927
28	0.99996	0.99994	0.99991	0.99988	0.99983	0.99977	0.99969	0.99961	0.99950
29	0.99998	0.99996	0.99994	0.99992	0.99989	0.99985	0.99980	0.99974	0.99966
30	0.99999	0.99998	0.99997	0.99995	0.99993	0.99990	0.99987	0.99982	0.99977
31	0.99999	0.99999	0.99998	0.99997	0.99995	0.99994	0.99991	0.99988	0.99984
32	0.99999	0.99999	0.99999	0.99998	0.99997	0.99996	0.99994	0.99992	0.99990
33	1.00000	1.00000	0.99999	0.99999	0.99998	0.99997	0.99996	0.99995	0.99993
34	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99998	0.99997	0.99996
35	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99998	0.99997
36	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998
37	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999
38	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
39	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

  

$n-2c$	$c = 18$	$c = 19$	$c = 20$	$c = 21$	$c = 22$	$c = 23$	$c = 24$	$c = 25$	$c = 26$
1	0	0	0	0	0	0	0	0	0
2	0.12859	0.12537	0.12239	0.11960	0.11700	0.11457	0.11227	0.11012	0.10808
3	0.25074	0.24477	0.23921	0.23401	0.22913	0.22455	0.22023	0.21615	0.21229
4	0.36417	0.35603	0.34841	0.34126	0.33453	0.32819	0.32219	0.31651	0.31112
5	0.46729	0.45762	0.44851	0.43993	0.43183	0.42415	0.41687	0.40995	0.40336
6	0.55920	0.54862	0.53861	0.52912	0.52011	0.51154	0.50338	0.49560	0.48816
7	0.63962	0.62870	0.61831	0.60840	0.59894	0.58990	0.58125	0.57296	0.56501
8	0.70878	0.69800	0.68767	0.67776	0.66825	0.65911	0.65032	0.64186	0.63371
9	0.76731	0.75704	0.74713	0.73756	0.72832	0.71939	0.71076	0.70240	0.69432
10	0.81608	0.80659	0.79736	0.78839	0.77967	0.77120	0.76295	0.75494	0.74714
11	0.85613	0.84759	0.83922	0.83102	0.82300	0.81515	0.80747	0.79997	0.79263
12	0.88860	0.88108	0.87365	0.86633	0.85911	0.85199	0.84500	0.83812	0.83136

$n-2c$	$c = 18$	$c = 19$	$c = 20$	$c = 21$	$c = 22$	$c = 23$	$c = 24$	$c = 25$	$c = 26$
13	0.91457	0.90808	0.90163	0.89521	0.88884	0.88252	0.87627	0.87008	0.86396
14	0.93509	0.92961	0.92410	0.91857	0.91305	0.90754	0.90204	0.89658	0.89114
15	0.95112	0.94656	0.94194	0.93726	0.93255	0.92782	0.92307	0.91832	0.91356
16	0.96352	0.95978	0.95595	0.95206	0.94811	0.94410	0.94006	0.93598	0.93188
17	0.97299	0.96997	0.96686	0.96366	0.96038	0.95704	0.95364	0.95020	0.94671
18	0.98017	0.97776	0.97525	0.97266	0.96998	0.96723	0.96441	0.96154	0.95861
19	0.98555	0.98365	0.98166	0.97958	0.97742	0.97518	0.97288	0.97050	0.96807
20	0.98955	0.98807	0.98651	0.98487	0.98314	0.98134	0.97947	0.97754	0.97554
21	0.99249	0.99136	0.99015	0.98886	0.98750	0.98606	0.98457	0.98300	0.98138
22	0.99465	0.99378	0.99285	0.99186	0.99079	0.98966	0.98847	0.98722	0.98592
23	0.99621	0.99556	0.99485	0.99408	0.99326	0.99238	0.99144	0.99046	0.98942
24	0.99733	0.99684	0.99631	0.99573	0.99510	0.99442	0.99369	0.99291	0.99209
25	0.99813	0.99777	0.99737	0.99693	0.99645	0.99593	0.99537	0.99477	0.99413
26	0.99870	0.99844	0.99814	0.99781	0.99745	0.99706	0.99663	0.99616	0.99566
27	0.99910	0.99891	0.99869	0.99845	0.99818	0.99788	0.99755	0.99720	0.99682
28	0.99938	0.99924	0.99908	0.99890	0.99870	0.99848	0.99824	0.99797	0.99767
29	0.99958	0.99948	0.99936	0.99923	0.99908	0.99892	0.99873	0.99853	0.99831
30	0.99971	0.99964	0.99956	0.99946	0.99936	0.99923	0.99910	0.99895	0.99878
31	0.99980	0.99975	0.99969	0.99963	0.99955	0.99946	0.99936	0.99925	0.99912
32	0.99987	0.99983	0.99979	0.99974	0.99969	0.99962	0.99955	0.99946	0.99937
33	0.99991	0.99989	0.99986	0.99982	0.99978	0.99974	0.99968	0.99962	0.99955
34	0.99994	0.99992	0.99990	0.99988	0.99985	0.99982	0.99978	0.99973	0.99968
35	0.99996	0.99995	0.99993	0.99992	0.99990	0.99987	0.99985	0.99981	0.99978
36	0.99997	0.99997	0.99996	0.99994	0.99993	0.99991	0.99989	0.99987	0.99984
37	0.99998	0.99998	0.99997	0.99996	0.99995	0.99994	0.99993	0.99991	0.99989
38	0.99999	0.99999	0.99998	0.99998	0.99997	0.99996	0.99995	0.99994	0.99992
39	0.99999	0.99999	0.99999	0.99998	0.99998	0.99997	0.99996	0.99996	0.99995
40	1.00000	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99997	0.99996
41	1.00000	1.00000	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99997
42	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999	0.99998
43	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999
44	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999
45	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
46	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

  

$n-2c$	$c = 27$	$c = 28$	$c = 29$	$c = 30$	$c = 31$	$c = 32$	$c = 33$	$c = 34$	$c = 35$
1	0	0	0	0	0	0	0	0	0
2	0.10615	0.10432	0.10258	0.10092	0.09934	0.09784	0.09640	0.09502	0.09371
3	0.20863	0.20516	0.20185	0.19869	0.19568	0.19280	0.19005	0.18741	0.18488
4	0.30600	0.30112	0.29646	0.29202	0.28777	0.28370	0.27980	0.27605	0.27245
5	0.39708	0.39108	0.38534	0.37985	0.37459	0.36954	0.36469	0.36003	0.35554
6	0.48104	0.47423	0.46769	0.46142	0.45539	0.44959	0.44400	0.43862	0.43343
7	0.55737	0.55004	0.54298	0.53618	0.52963	0.52331	0.51721	0.51132	0.50562
8	0.62585	0.61827	0.61095	0.60388	0.59704	0.59042	0.58401	0.57781	0.57179
9	0.68650	0.67892	0.67157	0.66444	0.65753	0.65082	0.64430	0.63797	0.63181
10	0.73957	0.73219	0.72501	0.71802	0.71122	0.70459	0.69813	0.69183	0.68569
11	0.78546	0.77845	0.77160	0.76490	0.75835	0.75195	0.74569	0.73957	0.73359
12	0.82471	0.81819	0.81178	0.80549	0.79932	0.79326	0.78732	0.78148	0.77575
13	0.85793	0.85197	0.84609	0.84029	0.83457	0.82894	0.82339	0.81792	0.81254
14	0.88574	0.88039	0.87508	0.86982	0.86461	0.85946	0.85436	0.84932	0.84434
15	0.90881	0.90407	0.89935	0.89466	0.88998	0.88534	0.88072	0.87614	0.87160
16	0.92776	0.92363	0.91949	0.91535	0.91122	0.90709	0.90297	0.89886	0.89477
17	0.94318	0.93963	0.93605	0.93245	0.92883	0.92521	0.92158	0.91794	0.91431

$n-2c$	$c = 27$	$c = 28$	$c = 29$	$c = 30$	$c = 31$	$c = 32$	$c = 33$	$c = 34$	$c = 35$
18	0.95563	0.95260	0.94955	0.94645	0.94333	0.94019	0.93703	0.93385	0.93065
19	0.96558	0.96304	0.96046	0.95783	0.95517	0.95247	0.94975	0.94700	0.94422
20	0.97348	0.97137	0.96921	0.96701	0.96476	0.96247	0.96014	0.95779	0.95540
21	0.97970	0.97797	0.97618	0.97434	0.97246	0.97054	0.96858	0.96658	0.96455
22	0.98456	0.98315	0.98168	0.98017	0.97862	0.97702	0.97538	0.97370	0.97198
23	0.98833	0.98719	0.98600	0.98477	0.98349	0.98218	0.98081	0.97942	0.97798
24	0.99123	0.99032	0.98936	0.98836	0.98733	0.98625	0.98513	0.98398	0.98279
25	0.99345	0.99272	0.99196	0.99116	0.99032	0.98945	0.98854	0.98760	0.98662
26	0.99513	0.99456	0.99396	0.99332	0.99266	0.99195	0.99122	0.99045	0.98965
27	0.99640	0.99596	0.99549	0.99498	0.99445	0.99389	0.99330	0.99269	0.99204
28	0.99736	0.99701	0.99665	0.99625	0.99583	0.99539	0.99492	0.99443	0.99391
29	0.99807	0.99780	0.99752	0.99721	0.99689	0.99654	0.99617	0.99577	0.99536
30	0.99859	0.99839	0.99818	0.99794	0.99768	0.99741	0.99712	0.99681	0.99648
31	0.99898	0.99883	0.99866	0.99848	0.99829	0.99807	0.99785	0.99760	0.99735
32	0.99927	0.99915	0.99903	0.99889	0.99874	0.99857	0.99840	0.99821	0.99801
33	0.99948	0.99939	0.99929	0.99919	0.99907	0.99895	0.99881	0.99867	0.99851
34	0.99962	0.99956	0.99949	0.99941	0.99932	0.99923	0.99913	0.99901	0.99889
35	0.99973	0.99969	0.99963	0.99957	0.99951	0.99944	0.99936	0.99927	0.99918
36	0.99981	0.99978	0.99974	0.99969	0.99964	0.99959	0.99953	0.99947	0.99939
37	0.99987	0.99984	0.99981	0.99978	0.99974	0.99970	0.99966	0.99961	0.99955
38	0.99991	0.99989	0.99987	0.99984	0.99982	0.99979	0.99975	0.99971	0.99967
39	0.99993	0.99992	0.99991	0.99989	0.99987	0.99985	0.99982	0.99979	0.99976
40	0.99995	0.99994	0.99993	0.99992	0.99991	0.99989	0.99987	0.99985	0.99982
41	0.99997	0.99996	0.99995	0.99994	0.99993	0.99992	0.99991	0.99989	0.99987
42	0.99998	0.99997	0.99997	0.99996	0.99995	0.99994	0.99993	0.99992	0.99991
43	0.99998	0.99998	0.99998	0.99997	0.99997	0.99996	0.99995	0.99994	0.99993
44	0.99999	0.99999	0.99998	0.99998	0.99998	0.99997	0.99996	0.99996	0.99995
45	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99997	0.99997
46	1.00000	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99998
47	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998
48	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999
49	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999
50	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
51	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

$n-2c$	$c = 36$	$c = 37$	$c = 38$	$c = 39$	$c = 40$	$c = 41$	$c = 42$	$c = 43$	$c = 44$
1	0	0	0	0	0	0	0	0	0
2	0.09244	0.09122	0.09005	0.08893	0.08784	0.08680	0.08579	0.08482	0.08387
3	0.18245	0.18011	0.17786	0.17569	0.17359	0.17158	0.16963	0.16774	0.16592
4	0.26899	0.26566	0.26245	0.25935	0.25636	0.25347	0.25067	0.24797	0.24535
5	0.35121	0.34703	0.34301	0.33912	0.33535	0.33172	0.32819	0.32478	0.32147
6	0.42841	0.42357	0.41888	0.41435	0.40996	0.40571	0.40159	0.39759	0.39370
7	0.50010	0.49476	0.48959	0.48457	0.47970	0.47498	0.47040	0.46594	0.46160
8	0.56596	0.56029	0.55479	0.54945	0.54426	0.53920	0.53429	0.52951	0.52485
9	0.62582	0.62000	0.61433	0.60880	0.60343	0.59818	0.59307	0.58809	0.58322
10	0.67971	0.67386	0.66816	0.66260	0.65716	0.65186	0.64667	0.64160	0.63664
11	0.72773	0.72200	0.71639	0.71090	0.70553	0.70027	0.69511	0.69006	0.68512
12	0.77013	0.76462	0.75920	0.75389	0.74868	0.74356	0.73853	0.73359	0.72874
13	0.80724	0.80202	0.79688	0.79182	0.78684	0.78194	0.77712	0.77237	0.76770
14	0.83942	0.83456	0.82976	0.82501	0.82033	0.81571	0.81115	0.80665	0.80221
15	0.86710	0.86263	0.85820	0.85382	0.84948	0.84518	0.84093	0.83672	0.83255
16	0.89070	0.88665	0.88263	0.87863	0.87465	0.87071	0.86679	0.86290	0.85904
17	0.91068	0.90705	0.90343	0.89982	0.89623	0.89265	0.88908	0.88553	0.88200

$n-2c$	$c = 36$	$c = 37$	$c = 38$	$c = 39$	$c = 40$	$c = 41$	$c = 42$	$c = 43$	$c = 44$
18	0.92745	0.92424	0.92102	0.91781	0.91459	0.91137	0.90816	0.90495	0.90176
19	0.94142	0.93861	0.93579	0.93295	0.93010	0.92724	0.92438	0.92151	0.91865
20	0.95299	0.95055	0.94809	0.94561	0.94311	0.94060	0.93807	0.93554	0.93300
21	0.96248	0.96039	0.95827	0.95612	0.95395	0.95177	0.94956	0.94733	0.94509
22	0.97023	0.96845	0.96664	0.96480	0.96293	0.96104	0.95913	0.95719	0.95524
23	0.97651	0.97501	0.97347	0.97191	0.97032	0.96870	0.96705	0.96538	0.96369
24	0.98157	0.98031	0.97902	0.97770	0.97635	0.97498	0.97358	0.97214	0.97070
25	0.98561	0.98457	0.98349	0.98239	0.98126	0.98010	0.97891	0.97770	0.97646
26	0.98882	0.98797	0.98708	0.98616	0.98522	0.98424	0.98326	0.98223	0.98119
27	0.99137	0.99066	0.98994	0.98918	0.98840	0.98760	0.98677	0.98591	0.98504
28	0.99336	0.99279	0.99220	0.99158	0.99094	0.99028	0.98959	0.98888	0.98815
29	0.99492	0.99446	0.99398	0.99348	0.99296	0.99242	0.99185	0.99127	0.99066
30	0.99613	0.99577	0.99538	0.99498	0.99456	0.99411	0.99365	0.99317	0.99267
31	0.99707	0.99678	0.99647	0.99615	0.99581	0.99545	0.99507	0.99468	0.99428
32	0.99779	0.99756	0.99731	0.99706	0.99679	0.99650	0.99620	0.99588	0.99555
33	0.99834	0.99816	0.99797	0.99776	0.99755	0.99732	0.99707	0.99682	0.99655
34	0.99876	0.99862	0.99847	0.99831	0.99814	0.99795	0.99776	0.99755	0.99734
35	0.99908	0.99897	0.99885	0.99872	0.99859	0.99844	0.99829	0.99813	0.99796
36	0.99932	0.99923	0.99914	0.99904	0.99893	0.99882	0.99870	0.99857	0.99843
37	0.99949	0.99943	0.99936	0.99928	0.99920	0.99911	0.99902	0.99891	0.99881
38	0.99962	0.99958	0.99952	0.99946	0.99940	0.99933	0.99926	0.99918	0.99909
39	0.99972	0.99969	0.99965	0.99960	0.99955	0.99950	0.99944	0.99938	0.99931
40	0.99980	0.99977	0.99974	0.99970	0.99967	0.99963	0.99958	0.99953	0.99948
41	0.99985	0.99983	0.99981	0.99978	0.99975	0.99972	0.99969	0.99965	0.99961
42	0.99989	0.99988	0.99986	0.99984	0.99982	0.99979	0.99977	0.99974	0.99971
43	0.99992	0.99991	0.99990	0.99988	0.99987	0.99985	0.99983	0.99981	0.99978
44	0.99994	0.99994	0.99993	0.99991	0.99990	0.99989	0.99987	0.99986	0.99984
45	0.99996	0.99995	0.99995	0.99994	0.99993	0.99992	0.99991	0.99989	0.99988
46	0.99997	0.99997	0.99996	0.99995	0.99995	0.99994	0.99993	0.99992	0.99991
47	0.99998	0.99998	0.99997	0.99997	0.99996	0.99996	0.99995	0.99994	0.99993
48	0.99999	0.99998	0.99998	0.99998	0.99997	0.99997	0.99996	0.99996	0.99995
49	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99997	0.99997	0.99996
50	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99997
51	1.00000	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99998
52	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999
53	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999
54	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999
55	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

$n-2c$	$c = 45$	$c = 46$	$c = 47$	$c = 48$	$c = 49$	$c = 50$	$c = 51$	$c = 52$	$c = 53$
1	0	0	0	0	0	0	0	0	0
2	0.08296	0.08208	0.08122	0.08039	0.07959	0.07881	0.07805	0.07731	0.07660
3	0.16415	0.16244	0.16079	0.15918	0.15762	0.15610	0.15463	0.15320	0.15180
4	0.24281	0.24035	0.23796	0.23565	0.23340	0.23121	0.22908	0.22701	0.22500
5	0.31826	0.31514	0.31211	0.30917	0.30631	0.30353	0.30082	0.29819	0.29562
6	0.38993	0.38626	0.38270	0.37923	0.37586	0.37257	0.36936	0.36624	0.36320
7	0.45739	0.45328	0.44929	0.44540	0.44160	0.43791	0.43430	0.43078	0.42734
8	0.52031	0.51588	0.51156	0.50735	0.50324	0.49923	0.49532	0.49149	0.48774
9	0.57847	0.57384	0.56931	0.56488	0.56056	0.55633	0.55219	0.54815	0.54418
10	0.63180	0.62705	0.62241	0.61787	0.61343	0.60907	0.60480	0.60063	0.59653
11	0.68027	0.67552	0.67086	0.66629	0.66181	0.65742	0.65311	0.64887	0.64472
12	0.72398	0.71931	0.71471	0.71020	0.70576	0.70141	0.69712	0.69291	0.68877
13	0.76310	0.75857	0.75411	0.74972	0.74540	0.74114	0.73695	0.73282	0.72875



$n-2c$	$c = 45$	$c = 46$	$c = 47$	$c = 48$	$c = 49$	$c = 50$	$c = 51$	$c = 52$	$c = 53$
14	0.79782	0.79350	0.78923	0.78503	0.78087	0.77677	0.77272	0.76873	0.76480
15	0.82843	0.82436	0.82033	0.81634	0.81240	0.80850	0.80465	0.80084	0.79707
16	0.85522	0.85142	0.84766	0.84393	0.84024	0.83658	0.83295	0.82935	0.82579
17	0.87849	0.87499	0.87152	0.86807	0.86465	0.86125	0.85787	0.85451	0.85118
18	0.89857	0.89538	0.89222	0.88906	0.88592	0.88279	0.87967	0.87657	0.87349
19	0.91578	0.91291	0.91004	0.90718	0.90433	0.90147	0.89863	0.89575	0.89297
20	0.93044	0.92787	0.92531	0.92274	0.92016	0.91759	0.91502	0.91245	0.90988
21	0.94284	0.94057	0.93829	0.93600	0.93371	0.93140	0.92910	0.92678	0.92447
22	0.95326	0.95127	0.94927	0.94725	0.94522	0.94318	0.94112	0.93906	0.93699
23	0.96198	0.96025	0.95850	0.95673	0.95495	0.95315	0.95134	0.94951	0.94768
24	0.96922	0.96773	0.96621	0.96468	0.96312	0.96155	0.95996	0.95836	0.95674
25	0.97521	0.97392	0.97262	0.97130	0.96995	0.96859	0.96721	0.96582	0.96440
26	0.98012	0.97903	0.97792	0.97678	0.97563	0.97446	0.97326	0.97206	0.97083
27	0.98414	0.98321	0.98227	0.98131	0.98032	0.97932	0.97830	0.97726	0.97620
28	0.98740	0.98662	0.98583	0.98502	0.98418	0.98333	0.98246	0.98157	0.98066
29	0.99004	0.98939	0.98873	0.98804	0.98734	0.98662	0.98588	0.98513	0.98436
30	0.99215	0.99162	0.99107	0.99050	0.98991	0.98931	0.98869	0.98805	0.98740
31	0.99385	0.99341	0.99295	0.99248	0.99199	0.99149	0.99097	0.99044	0.98989
32	0.99520	0.99484	0.99447	0.99408	0.99367	0.99325	0.99282	0.99238	0.99192
33	0.99627	0.99598	0.99567	0.99535	0.99502	0.99468	0.99432	0.99395	0.99357
34	0.99711	0.99688	0.99663	0.99637	0.99610	0.99582	0.99552	0.99522	0.99490
35	0.99777	0.99758	0.99736	0.99717	0.99696	0.99672	0.99648	0.99623	0.99597
36	0.99829	0.99814	0.99798	0.99781	0.99763	0.99744	0.99725	0.99704	0.99683
37	0.99869	0.99857	0.99844	0.99830	0.99816	0.99801	0.99785	0.99769	0.99751
38	0.99900	0.99891	0.99880	0.99870	0.99858	0.99846	0.99833	0.99820	0.99806
39	0.99924	0.99917	0.99908	0.99900	0.99891	0.99881	0.99871	0.99860	0.99849
40	0.99943	0.99937	0.99930	0.99924	0.99916	0.99909	0.99901	0.99892	0.99883
41	0.99957	0.99952	0.99947	0.99942	0.99936	0.99930	0.99924	0.99917	0.99909
42	0.99968	0.99964	0.99960	0.99956	0.99951	0.99947	0.99941	0.99936	0.99930
43	0.99976	0.99973	0.99970	0.99967	0.99963	0.99959	0.99955	0.99951	0.99946
44	0.99982	0.99980	0.99977	0.99975	0.99972	0.99969	0.99966	0.99963	0.99959
45	0.99986	0.99985	0.99983	0.99981	0.99979	0.99977	0.99974	0.99971	0.99969
46	0.99990	0.99989	0.99987	0.99986	0.99984	0.99982	0.99980	0.99978	0.99976
47	0.99992	0.99991	0.99990	0.99989	0.99988	0.99987	0.99985	0.99984	0.99982
48	0.99994	0.99994	0.99993	0.99992	0.99991	0.99990	0.99989	0.99988	0.99986
49	0.99996	0.99995	0.99995	0.99994	0.99993	0.99992	0.99992	0.99991	0.99990
50	0.99997	0.99996	0.99996	0.99996	0.99995	0.99994	0.99994	0.99993	0.99992
51	0.99998	0.99997	0.99997	0.99997	0.99996	0.99996	0.99995	0.99995	0.99994
52	0.99998	0.99998	0.99998	0.99998	0.99997	0.99997	0.99997	0.99996	0.99996
53	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99997	0.99997	0.99997
54	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99998
55	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998
56	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999
57	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999	0.99999
58	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999
59	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
60	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
$n-2c$	$c = 54$	$c = 55$	$c = 56$	$c = 57$	$c = 58$	$c = 59$	$c = 60$	$c = 61$	$c = 62$
1	0	0	0	0	0	0	0	0	0
2	0.07590	0.07522	0.07456	0.07392	0.07330	0.07268	0.07209	0.07151	0.07094
3	0.15045	0.14913	0.14784	0.14659	0.14537	0.14418	0.14302	0.14188	0.14078
4	0.22303	0.22112	0.21926	0.21744	0.21567	0.21394	0.21225	0.21060	0.20899

$n-2c$	$c = 54$	$c = 55$	$c = 56$	$c = 57$	$c = 58$	$c = 59$	$c = 60$	$c = 61$	$c = 62$
5	0.29312	0.29068	0.28830	0.28597	0.28371	0.28149	0.27933	0.27721	0.27515
6	0.36023	0.35733	0.35450	0.35174	0.34904	0.34640	0.34382	0.34130	0.33883
7	0.42399	0.42071	0.41751	0.41437	0.41131	0.40832	0.40538	0.40251	0.39970
8	0.48409	0.48051	0.47701	0.47358	0.47023	0.46695	0.46373	0.46058	0.45749
9	0.54031	0.53651	0.53279	0.52915	0.52558	0.52208	0.51865	0.51528	0.51198
10	0.59251	0.58858	0.58471	0.58093	0.57721	0.57356	0.56998	0.56646	0.56301
11	0.64064	0.63664	0.63270	0.62884	0.62504	0.62131	0.61764	0.61404	0.61050
12	0.68470	0.68069	0.67675	0.67288	0.66906	0.66531	0.66162	0.65798	0.65441
13	0.72475	0.72080	0.71691	0.71308	0.70931	0.70559	0.70193	0.69832	0.69476
14	0.76091	0.75708	0.75329	0.74956	0.74587	0.74224	0.73865	0.73511	0.73161
15	0.79335	0.78967	0.78603	0.78244	0.77888	0.77537	0.77190	0.76846	0.76507
16	0.82227	0.81877	0.81532	0.81189	0.80850	0.80514	0.80182	0.79853	0.79527
17	0.84788	0.84460	0.84135	0.83812	0.83492	0.83174	0.82859	0.82547	0.82237
18	0.87042	0.86737	0.86434	0.86133	0.85834	0.85536	0.85241	0.84947	0.84656
19	0.89015	0.88734	0.88454	0.88176	0.87899	0.87622	0.87348	0.87074	0.86802
20	0.90731	0.90475	0.90219	0.89964	0.89709	0.89455	0.89201	0.88949	0.88697
21	0.92215	0.91983	0.91751	0.91519	0.91287	0.91055	0.90823	0.90592	0.90361
22	0.93491	0.93283	0.93074	0.92865	0.92655	0.92445	0.92235	0.92024	0.91814
23	0.94583	0.94397	0.94210	0.94023	0.93835	0.93646	0.93457	0.93267	0.93077
24	0.95511	0.95347	0.95182	0.95015	0.94848	0.94679	0.94510	0.94340	0.94169
25	0.96297	0.96153	0.96007	0.95860	0.95712	0.95563	0.95412	0.95261	0.95108
26	0.96958	0.96833	0.96705	0.96576	0.96446	0.96315	0.96182	0.96048	0.95913
27	0.97512	0.97403	0.97293	0.97181	0.97067	0.96952	0.96836	0.96718	0.96599
28	0.97974	0.97880	0.97785	0.97688	0.97589	0.97489	0.97388	0.97285	0.97181
29	0.98357	0.98276	0.98194	0.98111	0.98026	0.97940	0.97852	0.97763	0.97672
30	0.98673	0.98604	0.98534	0.98463	0.98390	0.98316	0.98240	0.98163	0.98085
31	0.98932	0.98874	0.98815	0.98754	0.98692	0.98629	0.98564	0.98498	0.98431
32	0.99144	0.99096	0.99046	0.98994	0.98942	0.98888	0.98833	0.98776	0.98719
33	0.99317	0.99276	0.99235	0.99191	0.99147	0.99101	0.99055	0.99007	0.98958
34	0.99457	0.99423	0.99388	0.99352	0.99315	0.99277	0.99237	0.99197	0.99156
35	0.99570	0.99542	0.99513	0.99483	0.99452	0.99420	0.99387	0.99353	0.99318
36	0.99661	0.99638	0.99614	0.99589	0.99563	0.99536	0.99509	0.99480	0.99451
37	0.99733	0.99714	0.99695	0.99674	0.99653	0.99631	0.99608	0.99584	0.99560
38	0.99791	0.99776	0.99760	0.99743	0.99725	0.99707	0.99688	0.99669	0.99648
39	0.99837	0.99824	0.99811	0.99798	0.99783	0.99768	0.99753	0.99737	0.99720
40	0.99873	0.99863	0.99852	0.99841	0.99830	0.99817	0.99805	0.99791	0.99778
41	0.99902	0.99894	0.99885	0.99876	0.99866	0.99857	0.99846	0.99835	0.99824
42	0.99924	0.99918	0.99911	0.99904	0.99896	0.99888	0.99879	0.99870	0.99861
43	0.99941	0.99936	0.99931	0.99925	0.99919	0.99912	0.99906	0.99898	0.99891
44	0.99955	0.99951	0.99946	0.99942	0.99937	0.99932	0.99926	0.99921	0.99914
45	0.99966	0.99962	0.99959	0.99955	0.99951	0.99947	0.99943	0.99938	0.99933
46	0.99974	0.99971	0.99968	0.99966	0.99962	0.99959	0.99956	0.99952	0.99948
47	0.99980	0.99978	0.99976	0.99974	0.99971	0.99968	0.99966	0.99963	0.99960
48	0.99985	0.99983	0.99982	0.99980	0.99978	0.99976	0.99974	0.99971	0.99969
49	0.99989	0.99987	0.99986	0.99985	0.99983	0.99981	0.99980	0.99978	0.99976
50	0.99992	0.99990	0.99989	0.99988	0.99987	0.99986	0.99984	0.99983	0.99981
51	0.99993	0.99993	0.99992	0.99991	0.99990	0.99989	0.99988	0.99987	0.99986
52	0.99995	0.99995	0.99994	0.99993	0.99993	0.99992	0.99991	0.99990	0.99989
53	0.99996	0.99996	0.99995	0.99995	0.99994	0.99994	0.99993	0.99992	0.99992
54	0.99997	0.99997	0.99997	0.99996	0.99996	0.99995	0.99995	0.99994	0.99994
55	0.99998	0.99998	0.99997	0.99997	0.99997	0.99996	0.99996	0.99996	0.99996
56	0.99998	0.99998	0.99998	0.99998	0.99998	0.99997	0.99997	0.99997	0.99996
57	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998	0.99998	0.99998	0.99997

$n-2c$	$c = 54$	$c = 55$	$c = 56$	$c = 57$	$c = 58$	$c = 59$	$c = 60$	$c = 61$	$c = 62$
58	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998
59	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998	0.99998
60	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999
61	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99999
62	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999
63	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

$n-2c$	$c = 63$	$c = 64$	$c = 65$	$c = 66$	$c = 67$	$c = 68$	$c = 69$	$c = 70$	$c = 71$
1	0	0	0	0	0	0	0	0	0
2	0.07039	0.06984	0.06932	0.06880	0.06829	0.06780	0.06731	0.06684	0.06637
3	0.13969	0.13863	0.13760	0.13659	0.13560	0.13463	0.13368	0.13275	0.13184
4	0.20742	0.20588	0.20437	0.20290	0.20146	0.20004	0.19866	0.19731	0.19598
5	0.27312	0.27114	0.26921	0.26732	0.26546	0.26364	0.26186	0.26012	0.25841
6	0.33641	0.33405	0.33173	0.32946	0.32724	0.32506	0.32293	0.32084	0.31878
7	0.39695	0.39426	0.39161	0.38902	0.38649	0.38400	0.38155	0.37916	0.37680
8	0.45446	0.45150	0.44858	0.44573	0.44293	0.44018	0.43748	0.43483	0.43222
9	0.50874	0.50556	0.50243	0.49937	0.49636	0.49340	0.49050	0.48764	0.48484
10	0.55962	0.55628	0.55301	0.54979	0.54663	0.54352	0.54046	0.53745	0.53449
11	0.60701	0.60358	0.60021	0.59689	0.59363	0.59042	0.58726	0.58414	0.58108
12	0.65088	0.64742	0.64400	0.64063	0.63732	0.63405	0.63084	0.62767	0.62454
13	0.69125	0.68779	0.68437	0.68101	0.67769	0.67442	0.67119	0.66801	0.66486
14	0.72816	0.72475	0.72138	0.71806	0.71478	0.71154	0.70834	0.70519	0.70206
15	0.76171	0.75840	0.75512	0.75187	0.74867	0.74550	0.74237	0.73927	0.73621
16	0.79204	0.78885	0.78568	0.78255	0.77945	0.77639	0.77335	0.77034	0.76737
17	0.81930	0.81625	0.81323	0.81024	0.80727	0.80433	0.80142	0.79853	0.79566
18	0.84366	0.84078	0.83793	0.83509	0.83228	0.82948	0.82671	0.82396	0.82122
19	0.86531	0.86262	0.85994	0.85728	0.85463	0.85200	0.84938	0.84678	0.84420
20	0.88446	0.88196	0.87947	0.87699	0.87452	0.87206	0.86961	0.86718	0.86475
21	0.90130	0.89900	0.89670	0.89441	0.89212	0.88984	0.88757	0.88530	0.88304
22	0.91603	0.91393	0.91183	0.90972	0.90762	0.90552	0.90343	0.90134	0.89925
23	0.92886	0.92695	0.92504	0.92312	0.92120	0.91929	0.91737	0.91545	0.91354
24	0.93997	0.93825	0.93652	0.93479	0.93306	0.93132	0.92957	0.92783	0.92608
25	0.94955	0.94801	0.94646	0.94490	0.94334	0.94177	0.94020	0.93862	0.93704
26	0.95777	0.95640	0.95502	0.95363	0.95223	0.95083	0.94941	0.94799	0.94657
27	0.96479	0.96358	0.96236	0.96112	0.95988	0.95863	0.95737	0.95610	0.95482
28	0.97076	0.96969	0.96861	0.96753	0.96643	0.96532	0.96420	0.96307	0.96194
29	0.97580	0.97487	0.97393	0.97298	0.97201	0.97104	0.97005	0.96905	0.96805
30	0.98006	0.97925	0.97843	0.97760	0.97675	0.97590	0.97503	0.97416	0.97327
31	0.98362	0.98292	0.98221	0.98149	0.98076	0.98002	0.97926	0.97849	0.97772
32	0.98660	0.98600	0.98539	0.98477	0.98413	0.98349	0.98283	0.98217	0.98149
33	0.98908	0.98857	0.98804	0.98751	0.98696	0.98641	0.98584	0.98526	0.98468
34	0.99113	0.99069	0.99025	0.98979	0.98932	0.98885	0.98836	0.98786	0.98736
35	0.99282	0.99245	0.99207	0.99168	0.99129	0.99088	0.99046	0.99004	0.98960
36	0.99421	0.99390	0.99358	0.99325	0.99291	0.99257	0.99221	0.99185	0.99148
37	0.99535	0.99509	0.99482	0.99454	0.99426	0.99396	0.99366	0.99336	0.99304
38	0.99627	0.99605	0.99583	0.99560	0.99536	0.99511	0.99486	0.99460	0.99433
39	0.99702	0.99684	0.99666	0.99646	0.99626	0.99606	0.99584	0.99562	0.99540
40	0.99763	0.99748	0.99733	0.99717	0.99700	0.99683	0.99665	0.99647	0.99628
41	0.99812	0.99800	0.99787	0.99774	0.99760	0.99746	0.99731	0.99716	0.99700
42	0.99852	0.99841	0.99831	0.99820	0.99809	0.99797	0.99784	0.99772	0.99759
43	0.99883	0.99875	0.99866	0.99857	0.99848	0.99838	0.99828	0.99817	0.99806
44	0.99908	0.99901	0.99894	0.99887	0.99879	0.99871	0.99863	0.99854	0.99845
45	0.99928	0.99923	0.99917	0.99911	0.99904	0.99898	0.99891	0.99884	0.99877

$n-2c$	$c = 63$	$c = 64$	$c = 65$	$c = 66$	$c = 67$	$c = 68$	$c = 69$	$c = 70$	$c = 71$
46	0.99944	0.99939	0.99935	0.99930	0.99925	0.99919	0.99914	0.99908	0.99902
47	0.99956	0.99953	0.99949	0.99945	0.99941	0.99937	0.99932	0.99927	0.99922
48	0.99966	0.99963	0.99960	0.99957	0.99954	0.99950	0.99947	0.99943	0.99939
49	0.99974	0.99971	0.99969	0.99966	0.99964	0.99961	0.99958	0.99955	0.99952
50	0.99980	0.99978	0.99976	0.99974	0.99972	0.99970	0.99967	0.99965	0.99962
51	0.99984	0.99983	0.99982	0.99980	0.99978	0.99976	0.99974	0.99972	0.99970
52	0.99988	0.99987	0.99986	0.99985	0.99983	0.99982	0.99980	0.99979	0.99977
53	0.99991	0.99990	0.99989	0.99988	0.99987	0.99986	0.99985	0.99983	0.99982
54	0.99993	0.99992	0.99992	0.99991	0.99990	0.99989	0.99988	0.99987	0.99986
55	0.99995	0.99994	0.99994	0.99993	0.99992	0.99992	0.99991	0.99990	0.99989
56	0.99996	0.99996	0.99995	0.99995	0.99994	0.99994	0.99993	0.99992	0.99992
57	0.99997	0.99997	0.99996	0.99996	0.99996	0.99995	0.99995	0.99994	0.99994
58	0.99998	0.99997	0.99997	0.99997	0.99997	0.99996	0.99996	0.99995	0.99995
59	0.99998	0.99998	0.99998	0.99998	0.99997	0.99997	0.99997	0.99997	
60	0.99999	0.99999	0.99998	0.99998	0.99998	0.99998	0.99998	0.99997	
61	0.99999	0.99999	0.99999	0.99999	0.99999	0.99998	0.99998		
62	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999	0.99999		
63	1.00000	0.99999	0.99999	0.99999	0.99999	0.99999			
64	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999			
65	1.00000	1.00000	1.00000	1.00000	1.00000				

$n-2c$	$c = 72$	$c = 73$	$c = 74$	$c = 75$	$c = 76$	$c = 77$	$c = 78$	$c = 79$	$c = 80$
1	0	0	0	0	0	0	0	0	0
2	0.06592	0.06547	0.06504	0.06461	0.06419	0.06378	0.06338	0.06298	0.06259
3	0.13095	0.13008	0.12922	0.12838	0.12756	0.12675	0.12596	0.12518	0.12442
4	0.19468	0.19340	0.19215	0.19093	0.18972	0.18854	0.18738	0.18625	0.18513
5	0.25673	0.25509	0.25347	0.25189	0.25034	0.24881	0.24731	0.24584	0.24439
6	0.31677	0.31479	0.31285	0.31094	0.30908	0.30724	0.30543	0.30366	0.30192
7	0.37450	0.37223	0.37000	0.36782	0.36567	0.36355	0.36148	0.35944	0.35743
8	0.42967	0.42715	0.42468	0.42226	0.41987	0.41752	0.41522	0.41295	0.41072
9	0.48208	0.47937	0.47670	0.47408	0.47149	0.46895	0.46645	0.46399	0.46157
10	0.53158	0.52872	0.52589	0.52312	0.52038	0.51769	0.51504	0.51244	0.50986
11	0.57806	0.57509	0.57216	0.56927	0.56643	0.56363	0.56087	0.55815	0.55547
12	0.62146	0.61842	0.61543	0.61248	0.60957	0.60670	0.60388	0.60107	0.59832
13	0.66176	0.65870	0.65569	0.65271	0.64977	0.64686	0.64400	0.64117	0.63837
14	0.69898	0.69594	0.69293	0.68996	0.68703	0.68412	0.68126	0.67843	0.67563
15	0.73318	0.73018	0.72722	0.72429	0.72139	0.71852	0.71569	0.71288	0.71011
16	0.76442	0.76150	0.75861	0.75575	0.75292	0.75011	0.74734	0.74459	0.74187
17	0.79282	0.79000	0.78721	0.78445	0.78171	0.77899	0.77629	0.77362	0.77098
18	0.81851	0.81582	0.81315	0.81049	0.80786	0.80525	0.80266	0.80009	0.79754
19	0.84163	0.83908	0.83654	0.83402	0.83152	0.82903	0.82656	0.82410	0.82166
20	0.86234	0.85994	0.85755	0.85517	0.85280	0.85045	0.84811	0.84578	0.84347
21	0.88079	0.87855	0.87632	0.87409	0.87187	0.86966	0.86746	0.86528	0.86310
22	0.89717	0.89509	0.89301	0.89094	0.88888	0.88682	0.88477	0.88272	0.88068
23	0.91162	0.90971	0.90780	0.90588	0.90398	0.90207	0.90017	0.89827	0.89637
24	0.92433	0.92285	0.92083	0.91907	0.91732	0.91557	0.91382	0.91206	0.91031
25	0.93545	0.93386	0.93226	0.93066	0.92906	0.92746	0.92586	0.92425	0.92264
26	0.94513	0.94370	0.94225	0.94080	0.93935	0.93790	0.93643	0.93497	0.93350
27	0.95354	0.95224	0.95094	0.94964	0.94833	0.94701	0.94569	0.94436	0.94303
28	0.96079	0.95964	0.95848	0.95731	0.95613	0.95495	0.95376	0.95256	0.95136
29	0.96703	0.96601	0.96497	0.96393	0.96288	0.96182	0.96076	0.95968	0.95860
30	0.97237	0.97147	0.97055	0.96963	0.96870	0.96776	0.96681	0.96585	0.96489
31	0.97693	0.97614	0.97533	0.97452	0.97369	0.97286	0.97202	0.97117	0.97032

$n-2c$	$c = 72$	$c = 73$	$c = 74$	$c = 75$	$c = 76$	$c = 77$	$c = 78$	$c = 79$	$c = 80$
32	0.98081	0.98011	0.97940	0.97869	0.97796	0.97723	0.97649	0.97574	0.97498
33	0.98408	0.98348	0.98286	0.98224	0.98160	0.98096	0.98031	0.97965	0.97899
34	0.98684	0.98632	0.98578	0.98524	0.98469	0.98413	0.98356	0.98299	0.98240
35	0.98916	0.98871	0.98825	0.98778	0.98730	0.98682	0.98632	0.98582	0.98531
36	0.99110	0.99071	0.99032	0.98991	0.98950	0.98908	0.98865	0.98822	0.98778
37	0.99272	0.99239	0.99205	0.99170	0.99135	0.99099	0.99062	0.99024	0.98986
38	0.99406	0.99378	0.99349	0.99319	0.99289	0.99258	0.99227	0.99194	0.99161
39	0.99517	0.99493	0.99469	0.99443	0.99418	0.99391	0.99364	0.99337	0.99308
40	0.99608	0.99588	0.99568	0.99546	0.99524	0.99502	0.99479	0.99456	0.99431
41	0.99683	0.99667	0.99649	0.99631	0.99613	0.99594	0.99574	0.99554	
42	0.99745	0.99731	0.99716	0.99701	0.99686	0.99670	0.99653	0.99637	
43	0.99795	0.99783	0.99771	0.99759	0.99746	0.99732	0.99718		
44	0.99836	0.99826	0.99816	0.99806	0.99795	0.99784	0.99772		
45	0.99869	0.99861	0.99853	0.99844	0.99835	0.99826			
46	0.99896	0.99889	0.99882	0.99875	0.99867	0.99860			
47	0.99917	0.99912	0.99906	0.99900	0.99894				
48	0.99934	0.99930	0.99925	0.99920	0.99915				
49	0.99948	0.99945	0.99941	0.99937					
50	0.99959	0.99956	0.99953	0.99950					
51	0.99968	0.99966	0.99963						
52	0.99975	0.99973	0.99971						
53	0.99980	0.99979							
54	0.99985	0.99984							
55	0.99988								
56	0.99991								

$n-2c$	$c = 81$	$c = 82$	$c = 83$	$c = 84$	$c = 85$	$c = 86$	$c = 87$	$c = 88$	$c = 89$
1	0	0	0	0	0	0	0	0	0
2	0.06221	0.06183	0.06147	0.06111	0.06075	0.06040	0.06006	0.05972	0.05939
3	0.12367	0.12293	0.12221	0.12150	0.12080	0.12011	0.11944	0.11878	0.11812
4	0.18403	0.18296	0.18189	0.18085	0.17983	0.17882	0.17783	0.17686	0.17590
5	0.24297	0.24158	0.24021	0.23886	0.23753	0.23623	0.23494	0.23368	0.23244
6	0.30021	0.29852	0.29686	0.29523	0.29363	0.29205	0.29050	0.28897	0.28747
7	0.35546	0.35352	0.35161	0.34973	0.34788	0.34606	0.34426	0.34250	0.34076
8	0.40852	0.40635	0.40422	0.40213	0.40006	0.39803	0.39603	0.39406	0.39211
9	0.45919	0.45684	0.45453	0.45225	0.45000	0.44779	0.44561	0.44346	0.44135
10	0.50733	0.50483	0.50237	0.49995	0.49756	0.49520	0.49287	0.49058	0.48832
11	0.55282	0.55021	0.54764	0.54510	0.54260	0.54013	0.53770	0.53529	0.53292
12	0.59560	0.59291	0.59026	0.58765	0.58507	0.58252	0.58000	0.57752	0.57507
13	0.63561	0.63289	0.63019	0.62753	0.62491	0.62231	0.61975	0.61721	0.61471
14	0.67286	0.67012	0.66742	0.66475	0.66210	0.65949	0.65691	0.65435	0.65183
15	0.70736	0.70465	0.70196	0.69930	0.69667	0.69407	0.69149	0.68894	0.68642
16	0.73917	0.73650	0.73386	0.73124	0.72865	0.72608	0.72354	0.72102	0.71852
17	0.76836	0.76575	0.76318	0.76062	0.75809	0.75558	0.75309	0.75062	0.74818
18	0.79501	0.79250	0.79000	0.78753	0.78508	0.78264	0.78023	0.77783	0.77545
19	0.81924	0.81683	0.81444	0.81207	0.80971	0.80737	0.80504	0.80273	0.80044
20	0.84117	0.83888	0.83660	0.83434	0.83209	0.82985	0.82763	0.82542	0.82322
21	0.86092	0.85876	0.85661	0.85447	0.85234	0.85022	0.84811	0.84600	0.84391
22	0.87865	0.87662	0.87460	0.87259	0.87058	0.86858	0.86659	0.86461	0.86263
23	0.89448	0.89259	0.89071	0.88883	0.88695	0.88508	0.88321	0.88135	
24	0.90856	0.90681	0.90506	0.90331	0.90157	0.89983	0.89810	0.89636	
25	0.92103	0.91942	0.91780	0.91620	0.91459	0.91298	0.91137		
26	0.93203	0.93056	0.92908	0.92760	0.92613	0.92464	0.92316		

$n-2c$	$c = 81$	$c = 82$	$c = 83$	$c = 84$	$c = 85$	$c = 86$
27	0.94169	0.94035	0.93901	0.93766	0.93631	0.93496
28	0.95015	0.94894	0.94772	0.94649	0.94527	0.94403
29	0.95752	0.95643	0.95533	0.95422	0.95311	
30	0.96392	0.96294	0.96195	0.96096	0.95996	
31	0.96945	0.96858	0.96770	0.96681		
32	0.97422	0.97344	0.97266	0.97187		
33	0.97831	0.97763	0.97694			
34	0.98182	0.98121	0.98060			
35	0.98479	0.98427				
36	0.98733	0.98687				
37	0.98947					
38	0.99128					

$n-2c$	$c = 90$	$c = 91$	$c = 92$	$c = 93$	$c = 94$	$c = 95$	$c = 96$	$c = 97$	$c = 98$
1	0	0	0	0	0	0	0	0	0
2	0.05906	0.05874	0.05842	0.05811	0.05781	0.05751	0.05721	0.05692	0.05663
3	0.11748	0.11685	0.11623	0.11562	0.11501	0.11442	0.11384	0.11326	0.11270
4	0.17496	0.17403	0.17312	0.17222	0.17134	0.17046	0.16961	0.16876	0.16793
5	0.23121	0.23001	0.22882	0.22766	0.22651	0.22538	0.22426	0.22316	
6	0.28599	0.28453	0.28309	0.28168	0.28029	0.27891	0.27756	0.27623	
7	0.33905	0.33736	0.33570	0.33407	0.33245	0.33086	0.32929		
8	0.39020	0.38831	0.38645	0.38462	0.38281	0.38103	0.37927		
9	0.43926	0.43720	0.43517	0.43317	0.43119	0.42925			
10	0.48609	0.48389	0.48172	0.47958	0.47746	0.47538			
11	0.53058	0.52827	0.52598	0.52373	0.52151				
12	0.57264	0.57025	0.56789	0.56555	0.56325				
13	0.61224	0.60979	0.60737	0.60498					
14	0.64933	0.64686	0.64441	0.64200					
15	0.68393	0.68145	0.67901						
16	0.71605	0.71360	0.71118						
17	0.74575	0.74335							
18	0.77309	0.77075							
19	0.79816								
20	0.82104								
								$n-2c$	$c = 99$
								1	0
								2	0.05635